

**Reasoning/Justification (8 points):**

Write in your own words what the next step would be:

16.)  $3x - 11 = 7$

$$\begin{array}{r} +11 \quad +11 \\ 3x - 11 = 7 \\ \hline 3x = 18 \end{array}$$

divide by 3 on both sides

17.)  $8x - 9 = 2x + 27$

$$\begin{array}{r} -2x \quad -2x \\ 8x - 9 = 2x + 27 \\ \hline 6x - 9 = 27 \end{array}$$

add 9 to both sides

18.)  $4x - 2 - 1x = 12x - 9$

$$\begin{array}{r} 5x - 2 = 12x - 9 \\ -5x \quad -5x \end{array}$$

subtract  $5x$  from both sides

19.)  $3 + -3(3x - 1) = 30$

$$3 + (-9x) + 3 = 30$$

distribute  $-3$  to get rid of  $( )$ **Real-World Application (10 points):**

Solve the following word problems by setting up an equation and solving it.

20.) To go bowling, you pay a \$5 shoe fee and then pay \$3 for each <sup>x</sup>game. How many games can you play for a total cost (shoes and games) of \$35?

x: # of games you play

$$\begin{array}{r} \$ + 3x = 35 \\ -\$ \quad -5 \end{array}$$

$$\frac{3x}{3} = \frac{30}{3}$$

$$x = 10$$

10 games

You have \$30 for games.

21.) One movie store charges \$10 for a membership plus \$1 per <sup>x</sup>movie. Another movie store charges \$2 per <sup>x</sup>movie plus a \$5 for a membership. How many movies would you have to rent for these stores to charge the same amount?

x: # of movies

$$\begin{array}{r} 10 + x = 2x + 5 \\ -x \quad -x \end{array}$$

$$\begin{array}{r} 10 \quad x + 5 \\ -5 \quad -5 \\ \hline 5 \quad x \end{array}$$

$$x = 5$$

If you rent 5 movies, you would pay the same at both stores.